



DEPARTMENT OF ASTRONOMY AND ASTROPHYSICS
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Dear Reviewer:

As Principal Investigator for the SciDAC Computational Astrophysics Consortium, I am writing to express strong support for the SciDAC Visualization and Analytics Center for Enabling Technology, especially in their upcoming program review. Their team has been essential to our progress towards petascale science. VACET's codes and expertise have allowed us to visualize the complex data sets generated in our multi-dimensional simulations of stellar explosions. They have also helped us to develop machine intelligence that will ultimately automate and optimize the comparison of large observational data sets with our models.

Of particular importance has been their assistance in transitioning to the visual data analysis software (VisIt) necessary for analyzing production-quality runs with our new AMR codes, CASTRO and MAESTRO, as well as legacy simulation codes like VULCAN and SNe. VACET has also helped our team solve challenging problems in spectral data analysis resulting from the flood of observed spectra and light curves. They have allowed us to replace "chi-by-eye" spectral fitting procedures with new objective techniques that include machine learning methods and advanced comparative visual analysis. Overall, VACET has had a positive impact on our science effort, and is providing a valuable service to the scientific community.

Yours sincerely,

S. E. Woosley
Professor of Astronomy and Astrophysics